

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference aa425F/JH	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 99/ 20109	International filing date (day/month/year) 03/09/1999	(Earliest) Priority Date (day/month/year)
Applicant THE PROCTER & GAMBLE COMPANY et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/20109

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61K7/06		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, PAJ, WPI Data, CHEM ABS Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	✓ GB 2 315 771 A (KAO CORP) 11 February 1998 (1998-02-11) claims 1,8,9	
A	✓ PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997 (1997-07-31) & JP 09 077641 A (SHISEIDO CO LTD), 25 March 1997 (1997-03-25) abstract	
A	✓ FX 2 748 932 A (OREAL) 28 November 1997 (1997-11-28) examples 1-5	
A	✓ WO 92 19216 A (PROCTER & GAMBLE) 12 November 1992 (1992-11-12) examples 1-5	
	--- -/--	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
° Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search 7 June 2000		Date of mailing of the international search report 15/06/2000
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Stienon, P

INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A ✓	WO 99 24010 A (PROCTER & GAMBLE) 20 May 1999 (1999-05-20) example 1 -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/20109

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2315771 A	11-02-1998	DE 19732137 A JP 10087454 A	29-01-1998 07-04-1998
JP 09077641 A	25-03-1997	NONE	
FR 2748932 A	28-11-1997	BR 9706920 A CA 2239104 A EP 0901365 A WO 9744004 A	20-07-1999 27-11-1997 17-03-1999 27-11-1997
WO 9219216 A	12-11-1992	AU 1990592 A CN 1066385 A MX 9202086 A PT 100449 A	21-12-1992 25-11-1992 01-08-1993 31-08-1993
WO 9924010 A	20-05-1999	AU 9556898 A	31-05-1999

REPLACED BY
PCT 34 AMB

PATENT COOPERATION TREATY

REC'D 11 DEC 2001

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference AA425F/JH	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US99/20109	International filing date (day/month/year) 03/09/1999	Priority date (day/month/year) 03/09/1999
International Patent Classification (IPC) or national classification and IPC A61K7/06		
Applicant THE PROCTER & GAMBLE COMPANY et al.		



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 15/12/2000	Date of completion of this report 07.12.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Miller, B Telephone No. +49 89 2399 8540 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US99/20109

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-41 as originally filed

Claims, No.:

1-9 with telefax of 07/09/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US99/20109

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	2-9
	No:	Claims	1
Inventive step (IS)	Yes:	Claims	2-9
	No:	Claims	1
Industrial applicability (IA)	Yes:	Claims	1-9
	No:	Claims	

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Novelty (Article 33(2) PCT)

- 1.1. The present application does not meet the criterion set forth in Article 33(2) PCT because the subject-matter of claim 1 is not new in respect of the prior art as defined in the regulations (Rule 64(1)-(3) PCT).

The use of a composition or single components of a compositions is not suitable to confer novelty to a composition which itself is not novel.

Claim 1 thus relates to a composition comprising

- (1) from 0.01 to 10 % by weight of a carboxylic acid/ carboxylate copolymer,
- (2) from 0.1 to 10 % by weight of polypropylene glycol and
- (3) water.

The following documents disclose already compositions falling within the scope of present claim 1.

- a) **GB-A-2 315 771 (D1)** reports a non-foamable gel shaving composition, that contains 0.7 % by weight of a carboxyvinyl polymer or copolymer of acrylic acid and alkyl methacrylate and 2.0 % of polypropylene glycol (example 8).
- d) **WO-A-99/24010 (D4)** shows topical compositions in the form of an emollient cleanser containing acrylates/C10-30 alkyl acrylate crosspolymer (e.g. Pemulen TR-1 or Carbopol 1382, see examples 1 and 4). Polypropylene glycol can be used as emulsifiers or free oil (page 5, last three complete paragraphs; page 11, second paragraph) in amounts from 0.1 to 10 % by weight (page 11, fourth paragraph).

1.2. Claim 2 relates to a composition comprising

- (1) from 0.01 to 10 % by weight of a carboxylic acid/ carboxylate copolymer,
- (2) from 0.1 to 10 % by weight of specific ethoxylated alcohols,
- (3) from 0.05 to 5 % by weight of amphoteric polymer, and
- (4) water.

Such a combination of ingredients is not known from the prior art as represented by the documents cited in the search report. In particular a combination of the selected moisturizing agents and an amphoteric polymer is not known from the cited documents.

Thus, the subject-matter of present claim 2 is novel.

2. Inventive Step (Article 33(3) PCT)

- 2.1. Document **JP-A-9 077 641** (D5), which is considered to represent the most relevant state of the art, discloses an emulsion composition for hair containing an alkyl-modified carboxyvinyl polymer (a crosslinked carboxylic acid/ carboxylate copolymer, such as Pemulen TR-1, see paragraph [0008]) and a silicone. Said composition is useful as a shampoo, rinse, hair conditioner, hair treatment, set lotion, blow styling lotion, hair spray/hair cream, etc., in a form of an emulsion, suspension, gel, liquid crystal, aerosol, etc. (abstract).

The hair conditioning composition defined in present claim 2 differs from this document in that additionally a specific moisturizing agent is selected and in that an amphoteric polymer is incorporated in the hair conditioning composition.

The use of moisturizing agents is quite common in the technical field of hair conditioning products. In particular also polypropylene oxids or ethoxylated alcohols are commonly used therefor, see e.g. D1, page 11, last complete sentence and the paragraph bridging page 11 and 12).

However, the specific moisturizing agents defined in present claim 2 are not mentioned in the cited documents. Moreover, it is not derivable from these documents, that a combination of said specific moisturizing agents and an amphoteric polymer provides a stable product suitable for leave-on use which provides improved conditioning benefits to the hair such as moisturizing feel, reduction of bulk hair, and which is easy to apply on the hair and thereby leaves hair and hands with clean feeling (page 41, lines 18-22).

Therefore the subject-matter of present claim 2 is regarded to exhibit an inventive step.

- 2.2. As a consequence, the corresponding method of making a composition (claim 9) as defined in claim 2 is also regarded to be novel and inventive.
3. Claims 2-9, as far as they are dependent on claim 2, also meet the requirements of the PCT with respect to novelty and inventive step.
4. The present application relates to hair conditioning compositions. Thus the subject-matter of the present claims fulfils the requirements of article 33(4) PCT.

Re Item VIII

Certain observations on the international application

The following observations on the clarity of the claims and description or on the question whether the claims are fully supported by the description are made:

1. The vague and imprecise terms "**about**" (in claims 1-9 and throughout the description, e.g. on pages 2,4,5,6, etc.), "**low melting**" (claim 4), "**visible particle**" (claim 7) imply that the subject-matter for which protection is sought is not clearly defined, thereby resulting in lack of clarity (Article 6 PCT, see also the PCT Guidelines, III-4.5a).
2. It is clear from the description on pages 3-5 that not all possible carboxylic acid/carboxylate copolymers are suitable for the hair conditioning compositions as defined in present claims 1 and 2. On page 3, last paragraph it is indicated that hydrophobically-modified cross-linked copolymers of carboxylic acid and alkyl carboxylate having an amphiphilic property should be used. These carboxylic acid/carboxylate copolymers are obtained by copolymerizing 1) a carboxylic acid monomer such as acrylic acid, methacrylic acid, maleic acid, maleic anhydride, itaconic acid, fumaric acid, crotonic acid, or a chloroacrylic acid, 2) a carboxylic ester having an alkyl chain of from 1 to about 30 carbons, and preferably 3) a crosslinking agent. Since independent claim 1 does not contain these features it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US99/20109

3. The description is not in the required conformity with the claims (Article 6 PCT), compare claim 1, with page 4, lines 16-17 ("The composition of the present invention **preferably** comprises the carboxylic acid/carboxylate copolymer at a level by weight of from about 0.01% to about 10%").
4. The final paragraph of the description on page 41 relating to the "spirit" of the invention renders the scope of protection unclear (Article 6 PCT, see PCT-Guidelines, III-4.3a).

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SUBSTITUTE PAGE

WHAT IS CLAIMED IS:

1. A hair conditioning composition comprising:
 - (1) from about 0.01% to about 10% of a carboxylic acid/carboxylate copolymer;
 - (2) from about 0.1% to about 10% of a moisturizing agent ~~selected from the group consisting of a polypropyleneglycol an alkyl ethoxylate and mixtures thereof;~~ and
 - (3) an aqueous carrier.

2. A hair conditioning composition comprising:
 - (1) from about 0.01% to about 10% of a carboxylic acid/carboxylate copolymer;
 - (2) from about 0.1% to about 10% of a moisturizing agent selected from the group consisting of

oleth-5, oleth-3, steareth-5, steareth-4, cetareth-5, cetareth-4, cetareth-3, mixtures of C₉₋₁₁EO5, mixtures of C₉₋₁₁EO2.5, mixtures of C₁₂₋₁₃EO3, mixtures of C₁₁₋₁₃EO5, and mixtures thereof;
 - (3) from about 0.05% to about 5% of an amphoteric polymer; and
 - (4) ~~(2)~~ an aqueous carrier.

42- B

SUBSTITUTE PAGE

2. The hair conditioning composition according to Claim 1 wherein the moisturizing agent is the polypropyleneglycol.
3. The hair conditioning composition according to Claim 1 wherein the moisturizing agent is the alkyl ethoxylate of the following formula:
$$R-O-(C_2H_4O)_nH,$$
wherein R is a linear and saturated, or unsaturated alkyl group having from about 1 to about 30 carbon atoms; n is from about 3 to about 6; the weight average molecular weight of the alkyl ethoxylate is less than about 500 g/mol, and the HLB value of the alkyl ethoxylate is from about 5 to about 12.
3. ~~4~~ The hair conditioning composition according to any of Claims 1 ^{or} 2, ~~603~~ further comprising from about 0.1% to about 10% of a silicone compound selected from the group consisting of Dimethicone fluid, Dimethicone gum, Dimethiconol fluid, and mixtures thereof.
4. ~~5~~ The hair conditioning composition according to any of Claims 1 ^{or} 2, ~~603~~ further comprising from about 0.1% to about 5% of a low melting point oil.
5. ~~6~~ The hair conditioning composition according to ~~603~~ Claims 1, ~~2, 3, 4~~ further comprising from about 0.05% to about 5% of an amphoteric polymer.

SUBSTITUTE PAGE

6. ~~1~~ The hair conditioning composition according to any of Claims 1 ^{or} 2, ~~603~~ further comprising from about 0.01% to about 5% of an additional viscosity modifier.

7. ~~8~~ The hair conditioning composition according to any of Claims 1 ^{or} 2, ~~603~~ further comprising from about 0.01% to about 5% of a visible particle.

8. ~~8~~ The hair conditioning composition according to any of Claims 1 ^{or} 2, ~~603~~ further comprising from about 0.01% to about 2% of an herbal extract.

9. ~~10~~ A method of making the hair conditioning composition according to ^{any of} Claims 1 ^{or} 2, ~~603~~ wherein the hair conditioning composition further comprises a neutralizing agent; comprising the steps of:

- 5
- (a) neutralizing the carboxylic acid/carboxylate copolymer with the neutralizing agent in the aqueous carrier; and
 - (b) adding the amphoteric polymer and the moisturizing agent to the obtained mixture.